

## **DETECTING AND CAUSING LATENT DEADLOCKS IN MULTI-THREADED PROGRAMS**

5

### **ABSTRACT**

Methods and systems for analyzing multi-threaded programs are provided. The predisposed execution of multi-threaded programs is modified to cause and detect latent deadlocks. When a thread attempts to acquire a synchronization object, it is determined if the  
10 synchronization object was previously held by a thread that subsequently acquired another synchronization object while still holding the first. If this occurred, the thread is suspended and may be awakened by a thread that has acquired the synchronization object. The newly awakened thread may then attempt to acquire a synchronization object that is held by the  
15 second thread thereby increasing the likelihood that a latent deadlock will be caused and detected.